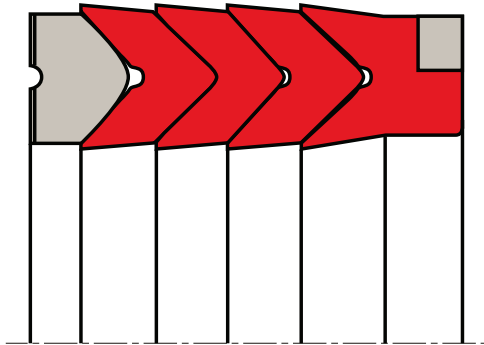


piston seal K1012-SA

seal spec



description

K1012-SA seals are sets of fabric reinforced chevron rings. they are composed by a support ring, "V" shaped sealing rings and a pressure energizing ring. the support ring or base ring guides and sustains the other "V" shaped rings for best performance. special versions provide incorporated anti-extrusion rings, either on the inner or outer side, for rod or piston applications. in standard version the support ring is manufactured in cotton fabric reinforced rubber, for a good anti-extrusion resistance.

the intermediate "V" shaped rings (vee-rings) are the real sealing elements of K1012-SA seals. their particular shape confers the capacity of increasing sealing effectiveness under high pressure. in standard version they are made in cotton fabric reinforced NBR and pure NBR.

the energizer ring ensures uniform loading of pressure on the other rings. this element is manufactured in acetal resin, or cotton fabric reinforced nitrile for diameters over 300 mm (standard material).

the K1012-SA seals are available in different compositions. the standard version consists in a support ring, two fabric reinforced vee-rings, one rubber vee-ring and the energizing ring.

Where extrusion gaps are greater than those specified or for higher pressure conditions, special designs incorporating anti-extrusion rings can be made, to suit piston.

application



not bolded symbols; please consult our technical for application limitations

category of profile

machined or molded/standard/trade product.

single acting

the K1012-SA seal is designed for use as a piston seal - either single or double acting where two seals are used 'back to back'

area of application: hydraulics

K1012-SA seals are recommended for single acting or double acting (back to back installation) hydraulic cylinders in the following applications:

- ship hydraulics
- excavators
- steel mills
- presses

advantages

- exceptional wear resistance
- pre-load adjustment capability
- excellent behaviour in harsh conditions
- rod-seal replacement without complete cylinder dismantling possible
- long service life

operating parameters & material

material			temperature	max. surface speed	max. pressure ¹
header ring	sealing element	back-up ring			
s-mart POM	NBR (fabric) - cotton reinforced NBR	NBR (fabric) - cotton reinforced NBR	-30 °C ... +130 °C	0,5 m/s	400 bar (40 MPa)
s-mart PTFE virgin	FKM - aramidic fiber reinforced FKM	FKM - aramidic fiber reinforced FKM	-20 °C ... +200 °C	0,5 m/s	400 bar (40 MPa)
s-mart POM	FKM (fabric) - cotton reinforced FKM	FKM (fabric) - cotton reinforced FKM	-20 °C ... +150 °C	0,5 m/s	400 bar (40 MPa)

the stated operation conditions represent general indications. it is recommended not to use all maximum values simultaneously. surface speed limits apply only to the presence of adequate lubrication film.

¹ pressure ratings are dependent on the size of the extrusion gap.

² POM up to ø260 mm, PA above ø260 mm

**surface quality**

surface roughness	material	Rtmax [μm]	Rz DIN [μm]	Ra [μm]
mating surface	PTFE +	0.63 - 2.50	0.40 - 1.60	0.05 - 0.20
	PU & Rubber	1.00 - 4.00	0.63 - 2.50	0.10 - 0.40
groove surface		< 16	< 10.0	< 1.6

gap dimension

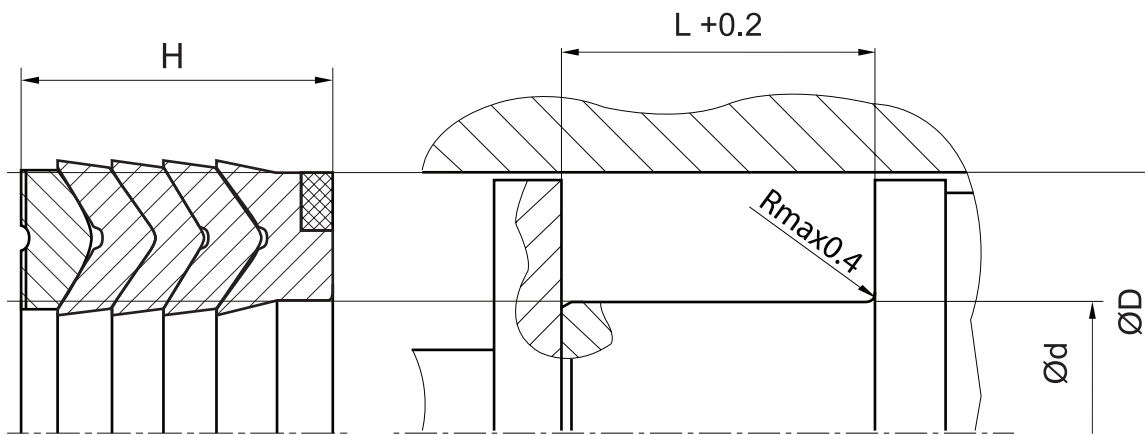
to prevent extrusion the diameter not facing the pressure must be max. 0.3 mm smaller (than the piston seal) and 0.3 mm larger (than the rod seal). using Veepac with Back-up Ring enables double values.

tolerance recommendation**seal housing tolerances**

$\varnothing d$	h11
$\varnothing D$	H9/f8

seal & housing recommendations

please note that we are able to produce those profiles to your specific need or any non standard housing. For detail measurements, please see seal-mart catalog...



don't hesitate to contact our technical department for further information or for special requirements (temperature, speed etc.), so that suitable materials and/or designs can be recommended.